Observations of Comet a, 1883 (Brooks-Swift), made at the Cambridge Observatory, with the Northumberland Equatorial and Square-bar Micrometer.

(*Communicated by Prof. J. C. Adams, M.A., F.R.S.*)

Green. M. T.	Aberration Time.	App. R.A.	Parallax.	App. Decl.	Parallax.	Comp. Star.	No. of Comp.
1883.		h m s	s	° ′ ″	″		
Mar. 3·29997	−·00666	0 12 23·663	+0·371	+32 0 47·27	+4·97	a	5
3·32017	−·00666	0 12 34·891	0·371	32 0 48·25	5·29	a	5
5·29434	−·00670	0 31 27·105	0·366	31 59 49·00	4·74	b	5
5·30642	−·00670	0 31 33·276	0·369	31 59 50·75	4·93	c	5
8·29263	−·00679	0 59 18·430	0·353	31 35 58·33	4·50	d	5
,,	,,	17·352	,,	56·86	,,	e	5
8·30639	−·00679	0 59 26·352	0·359	31 35 49·36	4·71	d	5
,,	,,	25·475	,,	48·65	,,	e	5
9·30323	−·00684	1 8 23·237	0·354	31 22 22·57	4·60	f	5
,,	,,	23·380	,,	26·03	,,	g	5
9·35984	−·00684	1 8 53·118	0·355	31 21 35·37	5·44	f	5
,,	,,	53·183	,,	37·65	,,	g	5
15·31233	−·00719	1 58 8·749	0·325	29 18 10·06	4·37	h	5
,,	,,	$i-2$ 2·784	,,	$i-0$ 10·32	,,	i	5
15·33099	−·00719	1 58 17·470	0·332	29 17 39·65	4·63	h	5
,,	,,	$i-1$ 54·187	,,	$i-0$ 39·91	,,	i	5
30·35196	−·00861	$j+1$ 22·438	0·261	$j-14$ 55·13	4·17	j	5
,,	,,	3 28 52·526	,,	21 52 56·93	,,	k	5
30·37434	−·00861	$j+1$ 28·132	0·263	$j-15$ 36·04	4·36	j	5
,,	,,	3 28 58·244	,,	21 52 13·08	,,	k	5
31·33700	−·00871	3 33 24·781	0·252	21 23 47·29	4·01	l	5
,,	,,	24·968	,,	47·13	,,	m	5
31·35294	−·00872	3 33 29·308	0·257	21 23 20·72	4·14	l	5
,,	,,	29·640	,,	15·27	,,	m	5
Apr. 2·35507	−·00894	3 42 16·827	0·249	20 24 55·87	4·08	n	5
,,	,,	$o+1$ 32·089	,,	$o+8$ 59·35	,,	o	5
2·36968	−·00894	3 42 20·748	0·251	20 24 27·76	4·20	p	5
,,	,,	$o+1$ 36·301	,,	$o+8$ 35·11	,,	o	5
7·34322	−·00959	$q-1$ 21·347	0·226	$q-3$ 41·35	3·80	q	5
,,		4 2 5·764	,,	18 6 11·58	,,	r	5

Assumed Mean Places for 1883·0 *of Stars compared with Comet* a, 1883 *(Brooks-Swift), with Reductions to Apparent Places for the night of Observation.*

	Right Ascension.	Reduc.	Declination.	Reduc.	Authority.
	h m s	s	° ′ ″	″	
a	0 14 38·573	+0·218	+32 15 43·87	+5·43	Micrometer comparison with Bessel 0ʰ 348. a is Arg. 32° 45.
b	0 29 54·047	0·271	32 2 27·16	5·20	Bessel 0ʰ 725.
c	0 33 13·856	0·284	31 59 11·95	5·21	,, 822.
d	0 59 45·265	0·378	31 33 22·10	4·78	,, 1464.
e	1 1 32·073	0·386	31 23 18·48	4·75	,, 1505.
f	1 6 24·296	0·401	31 27 15·46	4·61	Arg. 31° 197 meridian observation.
g	1 8 12·306	0·407	31 24 3·05	4·60	Bessel 1ʰ 109.
h	1 57 13·867	0·569	29 20 30·13	3·07	Cambridge Zones, 1879, Dec. 22.
i	2 0 9·2	0·581	29 19 43	+3·04	Arg. 29° 359.
j	3 27 29·5	0·746	22 7 54	−1·76	,, 22° 509.
k	3 30 32·978	0·757	21 57 53·20	−1·90	Bessel 3ʰ 620, 621.
l	3 31 7·060	0·743	21 19 23·76	−2·13	,, 631.
m	3 32 23·463	0·763	21 27 40·18	−2·13	,, 655.
n	3 37 56·876	0·740	20 22 44·20	−2·67	,, 809.
o	3 40 43·8	0·749	20 15 57	−2·77	
p	3 40 39·657	0·749	20 13 2·26	−2·78	Arg. 20° 633, meridian observation.
q	4 3 25·2	0·765	18 8 47	−4·22	Arg. 18° 493.
r	4 3 55·909	0·765	18 7 0·90	−4·22	Bessel 4ʰ 10, 11.

The above observations appear to show that the difference of R.A. of stars d and e, as deduced from Bessel, is 1ˢ in error.

The following parabolic elements have been calculated by Mr. Graham from the observations of March 3, 9, and 15 :—

$$T = 1883,\ Feb.\ 18·952355,\ G.M.T.$$

$$\pi = 29°\ 2′\ 45·32″$$
$$\Omega = 278\ 8\ 15·57\ \}\ Mean\ Equinox,\ 1883·0.$$
$$i = 78\ 3\ 26·33$$

$$\log q = 9·8808596.\quad Motion\ direct.$$

The middle place is represented thus :—

Obs. − Calc. $\Delta L \cos b = -0·80″.$ $\Delta b = +1·10″;$

where L and b indicate the geocentric longitude and latitude.

Observations of Comet a, 1883, *made at the Royal Observatory, Greenwich.*

(*Communicated by the Astronomer Royal.*)

The observations were made with the East or Sheepshanks Equatorial, by taking transits over two cross wires at right angles to each other, and inclined 45° to the parallel of declination.

Green. Mean Solar Time.	Obs.	R.A.	δ−✶ N.P.D.	No. of Comp.	Apparent R.A.	Apparent N.P.D.	Star.
d h m		m s	′ ″		h m s	° ′ ″	
Mar. 9 7 55	T.	+2 11·33	+ 5 28·5	3			a
		+0 23·50	+ 2 18·7	3	1 8 36·03	58 38 8·3	b
8 45		−2 1·67	−14 2·2	3	1 8 53·60	58 38 14·0	c
9 0		+2 35·83	+ 6 4·8	3			a
		+0 47·33	+ 2 46·5	3	1 8 59·86	58 38 36·1	b
9 8		−1 52·00	−13 40·8	1	1 9 3·27	58 38 35·4	c

Mean Places of the Comparison Stars.

Star.	Star's Name.	R.A. 1883·0.	N.P.D. 1883·0.	Authority.
		h m s	° ′ ″	
a	Anonymous			
b	W. B. (2) I.−109	1 8 12·12	58 35 54·2	W. B. (2)
c	W. B. (2) I.−175–6	1 10 54·85	58 52 20·7	W. B. (2)

Note.—Comet faint and diffused.

The observations are not corrected for refraction or parallax. The comet was also observed on March 12 and 27, but the comparison stars cannot be identified.

Royal Observatory, Greenwich:
    1883, *April* 13.

Spectroscopic Observations of Comet a, 1883 (*Brooks-Swift*).
        By Dr. N. de Konkoly.

The observations were made with the large Refractor (10-inch aperture), by Merz, on March 3, at 8ʰ mean time, at an altitude of 17°.

The spectroscope used was similar to that I constructed for the Brussels Observatory, with a colorimeter, made for me kindly by my friend E. de Gothard, owner of a beautiful Observatory at Herény, near Steinamanger (Hungary), with an excellent direct vision prism, by Dr. Hugo Schröder.

I saw in the spectrum only three bright bands, and with a widely-opened slit a very faint continuous spectrum, of which